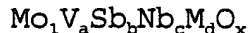


ABSTRACT

A catalyst composition having the formula:



wherein M is gallium, bismuth, silver or gold, a is 0.01 to 1, b is 0.01 to 1, c is 0.01 to 1, d is 0.01 to 1 and x is determined by the valence requirements of the other components. Other metals, such as tantalum, titanium, aluminum, zirconium, chromium, manganese, iron, ruthenium, cobalt, rhodium, nickel, platinum, boron, arsenic, lithium, sodium, potassium, rubidium, calcium, beryllium, magnesium, cerium, strontium, hafnium, phosphorus, europium, gadolinium, dysprosium, holmium, erbium, thulium, terbium, ytterbium, lutetium, lanthanum, scandium, palladium, praseodymium, neodymium, yttrium, thorium, tungsten, cesium, zinc, tin, germanium, silicon, lead, barium or thallium may also be components of the catalyst. This catalyst is prepared by coprecipitation of metal compounds which are calcined to form a mixed metal oxide catalyst that can be used for the selective conversion of an alkane to an unsaturated carboxylic acid in a one-step process.